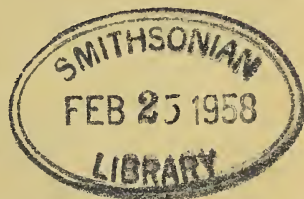


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STUDY AND CORRELATION
OF THREE WELLS
IN CHAUTAUQUA COUNTY,
NEW YORK



by
IRVING H. TESMER

Howard Yonkers No. 1 Well drilled by
E. Rolland Rich and Rolland T. Blodgett
Chautauqua County, N. Y., Sheridan Township

Robert Bates No. 1 Well drilled by
C. E. Bournique and others
Chautauqua County, N. Y., Ellery Township

Kyle Morse No. 1 Well drilled by
E. Glaros and N. Katras
Chautauqua County, N. Y., Harmony Township

A Report from the New York State Geological Survey

NEW YORK STATE MUSEUM
AND SCIENCE SERVICE
BULLETIN NUMBER 362

The University of the State of New York
The State Education Department

Albany, N. Y.

November 1957

THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of the University

With years when terms expire

1969	JOHN F. BROSNAN, A. M., LL. B., J. D., LL. D., D. C. L., D. C. S., <i>Chancellor</i> - - - - -	New York
1968	EDGAR W. COUPER, A. B., LL. D., <i>Vice Chancellor</i> - - -	Binghamton
1963	MRS. CAROLINE WERNER GANNETT, L. H. D., LL. D. - -	Rochester
1961	DOMINICK F. MAURILLO, A. B., M. D., LL. D. - - -	Brooklyn
1962	JACOB L. HOLTZMANN, LL. B., LL. D., D. C. L., Litt. D. -	New York
1964	ALEXANDER J. ALLAN, JR., LL. D., Litt. D. - - - -	Troy
1967	THAD L. COLLUM, C. E. - - - - -	Syracuse
1966	GEORGE L. HUBBELL, JR., A. B., LL. B., LL. D. - - -	Garden City
1958	T. NORMAN HURD, B. S., Ph. D. - - - - -	Ithaca
1960	CHARLES W. MILLARD, JR., A. B. - - - - -	Buffalo
1965	CHESTER H. LANG, A. B., LL. D. - - - - -	Schenectady
1970	EVERETT J. PENNY, B. C. S. - - - - -	White Plains

President of the University and Commissioner of Education

JAMES E. ALLEN, JR., Ed. M., Ed. D., LL. D., Litt. D.

Deputy Commissioner of Education

EWALD B. NYQUIST, B. S., LL. D., Pd. D.

Associate Commissioner for Higher and Professional Education

Assistant Commissioner for State Museum and Science Service

WILLIAM N. FENTON, A. B., Ph. D.

State Geologist, State Science Service

JOHN G. BROUGHTON, M. S., Ph. D.

State Paleontologist, State Science Service

DONALD W. FISHER, A. M., Ph. D.

SAMPLE STUDY AND CORRELATION OF THREE WELLS IN CHAUTAUQUA COUNTY, NEW YORK

by
IRVING H. TESMER
*State University of New York
College for Teachers at Buffalo*

A Report from the New York State Geological Survey

Howard Yonkers No. 1 Well

Dunkirk Quadrangle: 4,750 feet west of Longitude 79°15' W.
12,000 feet north of Latitude 42°25' N.
Commenced: July 13, 1954
Completed: October 15, 1954
Elevation: 875 feet
Total Depth: 1,447 feet
Result: Salt water

Robert Bates No. 1 Well

Chautauqua Quadrangle: 4,900 feet east of Longitude 79°20' W.
11,700 feet south of Latitude 42°10' N.
Commenced: September 14, 1948
Completed: April 14, 1949
Elevation: 1393 feet
Total Depth: 3,000 feet
Result: Abandoned as dry hole

Kyle Morse No. 1 Well

Chautauqua Quadrangle: 300 feet east of Longitude 79°25' W.
5,500 feet south of Latitude 42°05' N.
Commenced: March 18, 1954
Completed: 1956
Elevation: 1,572 feet
Total Depth: 7,100 feet
Result: 180 MCF of gas at 4,250-4,254 feet
90 MCF of gas at 6,880 feet

NEW YORK STATE MUSEUM AND SCIENCE SERVICE BULLETIN NUMBER 362

*The University of the State of New York
The State Education Department*

Albany, N. Y.

November 1957

This is the fourth in a series of reports inaugurated by the New York State Geological Survey on well sample studies and correlation of important New York wells. This paper has been compiled under the direction of William Lynn Kreidler, Senior Geologist.

These reports are made possible by the cordial cooperation of the producing companies and individuals operating the wells. This bulletin is considered to be of interest in showing some of the facies changes which occur within the Devonian rocks of southwestern New York, along a north-south meridian.

The rock-color chart prepared by the National Research Council in 1948 was used as a standard for color comparison of well cuttings.

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Tentative correlation of Morse No. 1, Bates No. 1 and Yonkers No. 1 wells.....back	

SAMPLE STUDY AND CORRELATION OF THE HOWARD YONKERS NO. 1 WELL*

SUMMARY OF SAMPLE ANALYSIS

DEVONIAN SYSTEM UPPER DEVONIAN (CHAUTAUQUAN) SERIES ARKWRIGHT GROUP

<i>Depth</i>			<i>Description</i>
<i>From</i>	<i>To</i>		
0	20	Mantle	
CANADAWAY FORMATION			
Gowanda member			
20	95	65% Shale, light gray to medium gray 25% Shale, medium dark gray to dark gray 10% Siltstone, light gray to medium light gray ; fresh water ; shows of gas from 45 feet to 800 feet	
95	130	60% Shale, light gray to medium gray 40% Shale, medium dark gray to dark gray	
130	175	85% Shale, light gray to medium gray 15% Shale, medium dark gray	
175	235	70% Shale, medium dark gray to dark gray 30% Shale, light gray to medium gray	
South Wales member			
235	270	90% Shale, light gray to medium gray 10% Shale, medium dark gray	
270	320	70% Shale, medium dark gray to dark gray 30% Shale, light gray to medium gray	
Dunkirk member			
320	360	100% Shale, medium gray to grayish black	

SENECA GROUP

CHEMUNG FORMATION

Hanover member			
360	420	85% Shale, light gray to medium gray, w/some pyrite 15% Shale, medium dark gray to dark gray	
420	440	100% Shale, medium light gray to medium gray	
440	465	60% Shale, medium dark gray 40% Shale, light gray to medium gray	
Pipe Creek member			
465	470	100% Shale, medium gray to dark gray	

* The stratigraphic nomenclature employed herein follows the revisions suggested by Tesmer (1955) and has not yet been officially adopted by the Geological Survey, New York State Museum and Science Service.

<i>Depth</i>		<i>Description</i>
<i>From</i>	<i>To</i>	
Angola member		
470	615	95% Shale, light gray to medium gray 5% Shale, medium dark gray
615	625	70% Shale, medium dark gray to dark gray, w/some pyrite 30% Shale, medium light gray to medium gray
625	695	90% Shale, light gray to medium gray 10% Shale, medium dark gray
695	760	50% Shale, light gray to medium gray 50% Shale, medium dark gray to dark gray
Rhinstreet member		
760	885	100% Shale, medium gray to dark gray, calcareous, concretions near top and bottom

NAPLES and GENESEE FORMATIONS

Cashaqua member

885	915	50% Shale, medium light gray to medium gray 50% Shale, medium dark gray
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Middlesex member etc.

915	925	100% Shale, medium gray to dark gray
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MIDDLE DEVONIAN (ERIAN) SERIES
HAMILTON GROUP

MOSCOW-LUDLOWVILLE FORMATIONS

members undifferentiated

925	945	50% Limestone, white to light gray, bryozoans, w/pyrite 30% Shale, medium gray 20% Shale, medium dark gray
945	1,030	70% Shale, medium dark gray to dark gray, calcareous at bottom 30% Shale, medium gray
1,030	1,070	85% Shale, medium dark gray, calcareous 15% Shale, medium gray

SKANEATELES FORMATION

Levanna member

1,070	1,120	100% Shale, dark gray, calcareous
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MARCELLUS FORMATION

Stafford member

1,120	1,135	80% Limestone, white to dark gray 20% Shale, dark gray, calcareous
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Oatka Creek member

1,135	1,195	90% Shale, dark gray to black calcareous 10% Limestone, white to dark gray
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<i>From</i>	<i>Depth To</i>	<i>Description</i>
ONONDAGA FORMATION		
Moorehouse member		
1,195	1,335	100% Limestone, very light gray to medium gray, w/light gray to medium gray chert, w/calcite
Nedrow member		
1,335	1,370	100% Limestone, very light gray to medium dark gray, w/light gray to medium dark gray chert, w/calcite
1,370	1,390	100% Limestone, light gray to medium dark gray, w/medium gray to medium dark gray chert, w/calcite
Edgecliff member		
1,390	1,415	100% Limestone, very light gray to light gray, w/very light gray chert, w/calcite
1,415	1,425	60% Siltstone, very light gray to medium light gray, w/glaucinite; Springvale sand horizon probably representing reworked Oriskany; salt water; show of oil
		40% Limestone, very light gray to light gray, w/very light gray chert, w/calcite

SILURIAN SYSTEM
UPPER SILURIAN (CAYUGAN) SERIES

AKRON (?) FORMATION

1,425	1,447	100% Limestone, light gray to medium gray, dolomitic
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SAMPLE STUDY AND CORRELATION OF THE ROBERT BATES NO. 1 WELL

SUMMARY OF SAMPLE ANALYSIS

DEVONIAN SYSTEM

UPPER DEVONIAN (CHAUTAUQUAN) SERIES

<i>Depth</i>		
<i>From</i>	<i>To</i>	<i>Description</i>
rock units undifferentiated		
0	237	No samples
237	261	100% Siltstone, light gray to medium light gray
261	342	No samples
342	348	100% Siltstone, light gray to medium light gray
348	397	No samples
397	407	100% Siltstone, light gray ; oil and gas
407	453	No samples
453	478	100% Siltstone, light gray ; gas
478	518	90% Siltstone, light gray to medium light gray 10% Shale, medium gray
518	525	No samples

ARKWRIGHT GROUP

CANADAWAY FORMATION

Northeast member

525	630	50% Shale, medium light gray to medium gray 30% Siltstone, light gray to medium light gray 20% Shale, medium dark gray
630	680	90% Shale, medium light gray to medium gray 10% Shale, medium dark gray
680	743	70% Shale, medium light gray to medium gray ; gas 20% Shale, medium dark gray 10% Siltstone, light gray
743	770	50% Shale, medium light gray to medium gray ; good gas 30% Siltstone, light gray 20% Shale, medium dark gray

Shumla member

770	797	60% Siltstone, light gray to medium light gray 30% Shale, medium dark gray 10% Shale, medium gray
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Westfield member

797	815	60% Shale, medium light gray to medium gray 25% Shale, medium dark gray 15% Siltstone, light gray
815	890	85% Shale, medium light gray to medium gray 15% Shale, medium dark gray

<i>Depth</i>		
<i>From</i>	<i>To</i>	<i>Description</i>
890	990	70% Shale, medium light gray to medium gray 30% Shale, medium dark gray
990	1,045	75% Shale, medium light gray to medium gray 15% Shale, medium dark gray 10% Siltstone, medium light gray to medium gray
Laona member		
1,045	1,070	40% Siltstone, light gray to medium light gray 40% Shale, medium light gray to medium gray 20% Shale, medium dark gray
Gowanda-South Wales members		
1,070	1,112	70% Shale, light gray to medium gray 20% Shale, medium dark gray 10% Siltstone, light gray to medium light gray
1,112	1,203	75% Shale, light gray to medium gray 25% Shale, medium dark gray
1,203	1,278	65% Shale, medium light gray to medium gray 30% Shale, medium dark gray 5% Siltstone, medium light gray
1,278	1,410	50% Shale, medium dark gray to dark gray 45% Shale, light gray to medium gray 5% Siltstone, light gray to medium light gray
1,410	1,450	75% Shale, medium light gray to medium gray 25% Shale, medium dark gray to dark gray
1,450	1,522	55% Shale, medium light gray to medium gray 45% Shale, medium dark gray to dark gray
Dunkirk member		
1,522	1,564	100% Shale, medium gray to dark gray

SENECA GROUP

CHEMUNG FORMATION

Hanover member		
1,564	1,633	85% Shale, light gray to medium gray 15% Shale, medium dark gray to dark gray
1,633	1,671	100% Shale, medium light gray to medium gray
Pipe Creek member		
1,671	1,685	100% Shale, dark gray
Angola member		
1,685	1,735	100% Shale, medium light gray to medium gray
1,735	1,798	75% Shale, light gray to medium gray 25% Shale, medium dark gray to dark gray
1,798	1,880	95% Shale, medium light gray to medium gray 5% Shale, medium dark gray
1,880	1,903	55% Shale, medium dark gray to dark gray 45% Shale, medium light gray to medium gray

<i>Depth</i>		<i>Description</i>
<i>From</i>	<i>To</i>	
1,903	1,938	40% Siltstone, light gray to medium light gray 35% Shale, medium dark gray to dark gray 25% Shale, medium gray
1,938	2,000	55% Shale, medium light gray to medium gray 45% Shale, medium dark gray to dark gray
2,000	2,048	90% Shale, light gray to medium gray 10% Shale, medium dark gray
2,048	2,122	70% Shale, medium dark gray to dark gray, calcareous at bottom 30% Shale, light gray to medium gray
Rhinestreet member		
2,122	2,266	100% Shale, medium gray to grayish black, calcareous, concretions near middle and bottom, w/some pyrite

NAPLES and GENESEE FORMATIONS

Cashaqua member

2,266	2,292	50% Shale, medium gray 50% Shale, medium dark gray
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Middlesex member etc.

2,292	2,313	95% Shale, medium dark gray 5% Shale, medium gray
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MIDDLE DEVONIAN (ERIAN) SERIES
HAMILTON GROUP

MOSCOW-LUDLOWVILLE FORMATIONS

members undifferentiated

2,313	2,352	70% Shale, medium dark gray, calcareous, w/some pyrite 30% Shale, medium gray
2,352	2,375	70% Shale, medium gray, calcareous 30% Shale, medium dark gray
2,375	2,403	100% Limestone, white to medium dark gray ; "Tully" of drillers*
2,403	2,442	100% Shale, medium gray, calcareous
2,442	2,508	65% Shale, medium dark gray, calcareous 35% Shale, medium gray

SKANEATELES FORMATION

Levanna member

2,508	2,555	90% Shale, medium dark gray to dark gray, calcareous 10% Shale, medium gray
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MARCELLUS FORMATION

Stafford member

2,555	2,567	60% Limestone, white to dark gray 40% Shale, medium dark gray to dark gray, calcareous
-------	-------	---

* "Tully" of drillers is not the true Tully but it is one of several limestone members found in the Hamilton Group of Chautauqua County. See comment 7, page 19.

<i>From</i>	<i>Depth</i> <i>To</i>	<i>Description</i>
Oatka Creek member		
2,567	2,622	100% Shale, medium dark gray to grayish black, calcareous

ONONDAGA FORMATION

Moorehouse member		
2,622	2,703	100% Limestone, very light gray to medium gray, w/light gray to medium gray chert, w/calcite
2,703	2,720	100% Limestone, very light gray to medium dark gray, w/light gray to medium dark gray chert, w/calcite
2,720	2,731	100% Limestone, very light gray to medium gray, w/light gray to medium gray chert, w/calcite
Nedrow member		
2,731	2,796	100% Limestone, light gray to medium dark gray, w/medium gray to medium dark gray chert, w/calcite
Edgecliff member		
2,796	2,816	100% Limestone, very light gray to light gray, w/very light gray chert, w/calcite
2,816	2,822	50% Siltstone, very light gray to medium light gray, w/glaucouite; Springvale sand horizon probably representing reworked Oriskany
		50% Limestone, very light gray to light gray, w/very light gray chert, w/calcite

LOWER DEVONIAN (ULSTERIAN) SERIES

ORISKANY FORMATION

2,822	2,827	100% Sandstone, white to medium light gray, coarse grained, w/glaucouite
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SILURIAN SYSTEM

UPPER SILURIAN (CAYUGAN) SERIES

AKRON (?) FORMATION

2,827	100% Limestone, light gray to medium gray, dolomitic; good show oil at 2,830-41 feet
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Total Depth : 3,000 feet

SAMPLE STUDY AND CORRELATION OF THE KYLE MORSE NO. 1 WELL

SUMMARY OF SAMPLE ANALYSIS

DEVONIAN SYSTEM UPPER DEVONIAN (CHAUTAUQUAN) SERIES

<i>Depth</i>		
<i>From</i>	<i>To</i>	<i>Description</i>
rock units undifferentiated		
0	450	No samples
450	515	80% Siltstone, light gray to medium gray 20% Shale, medium gray
515	548	100% Siltstone, light gray to medium gray
548	645	70% Siltstone, light gray to medium gray 30% Shale, medium gray

ARKWRIGHT GROUP

CANADAWAY FORMATION

Northeast member

645	801	70% Shale, light gray to medium gray 30% Siltstone, light gray to medium light gray
801	971	75% Siltstone, light gray to medium light gray 20% Shale, medium light gray to medium gray 5% Shale, medium dark gray
971	1,094	80% Shale, medium light gray to medium gray 10% Siltstone, light gray to medium light gray 10% Shale, medium dark gray
1,094	1,107	45% Siltstone, light gray to medium light gray 35% Shale, medium gray 20% Shale, medium dark gray

Shumla member

1,107	1,139	60% Siltstone, light gray to medium light gray 25% Shale, medium dark gray 15% Shale, medium gray
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Westfield member

1,139	1,221	55% Shale, medium light gray to medium gray 30% Shale, medium dark gray 15% Siltstone, light gray
1,221	1,308	90% Shale, medium light gray to medium gray 10% Shale, medium dark gray
1,308	1,423	75% Shale, medium light gray to medium gray 15% Shale, medium dark gray 10% Siltstone, light gray to medium light gray

<i>Depth</i>		<i>Description</i>
<i>From</i>	<i>To</i>	
Laona member		
1,423	1,466	50% Siltstone, light gray 30% Shale, medium light gray to medium gray 20% Shale, medium dark gray
Gowanda-South Wales members		
1,466	1,730	70% Shale, medium light gray to medium gray 15% Shale, medium dark gray to dark gray 15% Siltstone, light gray to medium light gray
1,730	1,790	70% Shale, medium gray 30% Shale, medium dark gray
1,790	1,816	50% Shale, medium dark gray to dark gray 50% Shale, light gray to medium gray
Dunkirk member		
1,816	1,866	100% Shale, medium dark gray to grayish black

SENECA GROUP

CHEMUNG FORMATION

Hanover member		
1,866	1,971	75% Shale, light gray to medium gray, sl/calcareous 25% Shale, medium dark gray to dark gray
Pipe Creek member		
1,971	1,983	100% Shale, dark gray to grayish black
Angola member		
1,983	2,057	95% Shale, medium light gray to medium gray 5% Shale, medium dark gray
2,057	2,097	70% Shale, medium light gray to medium gray 20% Shale, medium dark gray 10% Siltstone, light gray to medium light gray
2,097	2,217	75% Shale, medium light gray to medium gray 25% Shale, medium dark gray to dark gray
2,217	2,251	80% Shale, medium light gray to medium gray 10% Shale, medium dark gray 10% Siltstone, light gray to medium light gray
2,251	2,320	85% Shale, medium light gray to medium gray 15% Shale, medium dark gray to dark gray
2,320	2,355	65% Shale, light gray to medium gray 35% Shale, medium dark gray to dark gray 5% Siltstone, medium light gray
2,355	2,431	70% Shale, medium light gray to medium gray 30% Shale, medium dark gray to dark gray
Rhinestreet member		
2,431	2,550	100% Shale, medium gray to grayish black, calcareous

NAPLES and GENESEE FORMATIONS

Cashaqua member		
2,550	2,575	50% Shale, medium gray 50% Shale, medium dark gray

<i>Depth</i>		<i>Description</i>
<i>From</i>	<i>To</i>	
Middlesex member etc.		
2,575	2,600	85% Shale, medium dark gray, w/some pyrite 15% Shale, medium gray

MIDDLE DEVONIAN (ERIAN) SERIES HAMILTON GROUP

MOSCOW-LUDLOWVILLE FORMATIONS

members undifferentiated

2,600	2,626	60% Shale, medium dark gray to dark gray, calcareous 30% Shale, medium light gray to medium gray 10% Limestone, very light gray to light gray, w/some pyrite
2,626	2,659	100% Limestone, white to dark gray; top of "Tully" of drillers*
2,659	2,701	75% Shale, medium dark gray to dark gray, calcareous 15% Shale, medium gray 10% Limestone, very light gray to dark gray
2,701	2,720	85% Limestone, white to dark gray; base of "Tully" of drillers 10% Shale, medium dark gray to dark gray, calcareous 5% Shale, medium gray
2,720	2,767	90% Shale, medium gray, calcareous 10% Shale, medium dark gray
2,767	2,814	65% Shale, medium dark gray, calcareous 35% Shale, medium gray

SKANEATELES FORMATION

Levanna member

2,814	2,835	100% Shale, medium dark gray to dark gray, calcareous
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MARCELLUS FORMATION

Stafford member

2,835	2,841	50% Limestone, white to dark gray 50% Shale, medium dark gray to dark gray, calcareous
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Oatka Creek member

2,841	2,904	100% Shale, medium gray to grayish black, calcareous
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ONONDAGA FORMATION

Moorehouse member

2,904	2,969	100% Limestone, very light gray to medium gray, w/light gray to medium gray chert, w/calcite
2,969	2,985	100% Limestone, very light gray to medium dark gray, w/light gray to medium dark gray chert, w/calcite

* "Tully" of drillers is not the true Tully but it is one of several limestone members found in the Hamilton Group of Chautauqua County. See comment 7, page 19.

<i>From</i>	<i>Depth</i> <i>To</i>	<i>Description</i>
2,985	2,992	100% Limestone, very light gray to medium gray, w/light gray to medium gray chert, w/calcite
Nedrow member		
2,992	3,070	100% Limestone, light gray to medium dark gray, w/medium gray to medium dark gray chert, w/calcite
Edgecliff member		
3,070	3,100	100% Limestone, very light gray to light gray, w/very light gray chert, w/calcite
3,100	3,135	80% Siltstone, very light gray to medium light gray, w/glaucinite; Springvale sand horizon probably representing reworked Oriskany
		20% Limestone, very light gray to dark gray, w/very light gray to medium gray chert, w/calcite, w/some gypsum

SILURIAN SYSTEM
UPPER SILURIAN (CAYUGAN) SERIES

AKRON (?) FORMATION

3,135 100% Limestone, light gray to medium gray, dolomitic, w/gypsum

Total Depth: 7,100 feet

TENTATIVE STRATIGRAPHIC LOG OF YONKERS NO. 1 WELL

DEVONIAN SYSTEM

<i>Series</i>	<i>Group</i>	<i>Formation</i>	<i>Member</i>	<i>Depth</i>		<i>Thickness</i>
				<i>From</i>	<i>To</i>	
Chautauquan	Arkwright	Canadaway	Gowanda	(?)	235	85
			South Wales	320	320	40
	Seneca	Chemung	Dunkirk	360	360	105
			Hanover	465	465	5
			Pipe Creek	470	470	290
Erian	Hamilton	Naples and Genesee	Angola	760	760	125
			Rhimestreet	885	885	30
			Cashaqua	915	915	10
			Middlesex etc.	925	925	145
			—	925	1,070	50
		Moscow-Ludlowville	Levanna	1,070	1,120	15
			Stafford	1,120	1,135	60
			Oatka Creek	1,135	1,195	140
		Onondaga	Moorehouse	1,195	1,335	55
			Nedrow	1,335	1,390	35

SILURIAN SYSTEM

Cayugan	—	Akron (?)	1,425	(?)
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TENTATIVE STRATIGRAPHIC LOG OF BATES NO. 1 WELL

DEVONIAN SYSTEM

Series	Group	Formation	Member	Depth		Thickness
				From	To	
Chautauquan	Arkwright	Canadaway	Northeast	(?)	770	
			Shumla	770	797	27
			Westfield	797	1,045	248
			Laona	1,045	1,070	25
	Seneca	Chemung	Gowanda-South Wales	1,070	1,522	452
			Dunkirk	1,522	1,564	42
			Hanover	1,564	1,671	107
			Pipe Creek	1,671	1,685	14
			Angola	1,685	2,122	437
			Rhinestreet	2,122	2,266	144
Erian	Hamilton	Naples and Genesee	Cashaqua	2,266	2,292	26
			Middlesex etc.	2,292	2,313	21
			—	2,313	2,508	195
			Levanna	2,508	2,555	37
	—	Moscow-Ludlowville	Stafford	2,555	2,567	12
			Oatka Creek	2,567	2,622	55
			Moorehouse	2,622	2,731	109
	—	Onondaga	Nedrow	2,731	2,796	65
			Edgecliff	2,796	2,822	26
			—	2,822	2,827	5
Ulsterian	—	Oriskany	—			

SILURIAN SYSTEM

Cayugan	—	Akron (?)	—	2,827	(?)	
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TENTATIVE STRATIGRAPHIC LOG OF MORSE NO. 1 WELL

DEVONIAN SYSTEM

Series	Group	Formation	Member	Depth		Thickness
				From	To	
Chautauquan	Arkwright	Canadaway	(?)	(?)	1,107	
			Northeast	1,107	1,139	32
			Shumla	1,139	1,423	284
			Westfield	1,423	1,466	43
			Laona	1,466	1,816	350
			Gowanda-South Wales	1,816	1,866	50
			Dunkirk	1,866	1,971	105
			Hanover	1,971	1,983	12
			Pipe Creek	1,983	2,431	448
			Angola	2,431	2,550	119
Erian	Hamilton	Naples and Genesee	Rhinestreet	2,550	2,575	25
			Cashagua	2,575	2,600	25
			Middlesex etc.	2,600	2,814	214
			—	2,814	2,835	21
			Levanna	2,835	2,841	6
			Stafford	2,841	2,904	63
			Oatka Creek	2,904	2,992	88
			Moorehouse	2,992	3,070	78
			Nedrow	3,070	3,135	65
			Edgecliff	3,135		
Cayugan	—	Akron (?)	—	3,135	(?)	

SILURIAN SYSTEM

COMMENTS

1. The upper contact of the Northeast member of the Canadaway formation was not determined in the Bates and Morse wells because of incomplete well cuttings and lack of faunal evidence.
2. The black shale band which marks the base of the Gowanda member of the Canadaway formation in surface exposures and in the Yonkers well is not recognized in the other two wells. Hence, the Gowanda and South Wales members of the Canadaway formation are not separated in the Bates and Morse wells.
3. Considerable variation in the thickness of the combined Gowanda-South Wales members between the Bates and Morse wells may indicate a disconformity at the base of the overlying Laona siltstone member of the Canadaway formation.
4. The rather rapid increase in thickness of the Angola member of the Chemung formation from the Yonkers well to the Bates well is accompanied by an increase in siltstone content. The presence of this siltstone may indicate a rather rapid local accumulation of sediments at the site of the Bates well during a portion of Angola time.
5. The boundary between the Chemung and Naples formations is redrawn at the Rhinestreet-Cashaqua contact as the latter is distinct across western New York. (Pepper, de Witt & Colton, 1956)
6. The rock unit designated Middlesex etc. probably includes two or more thin subdivisions but these cannot be differentiated in the well cuttings. They may include the West River, Genundewa and/or Geneseo, hence the combined term Naples and Genesee formations.
7. Variations in lithology do not permit easy subdivision of the Moscow and Ludlowville formations which are not separated in this report. Pyrite or marcasite occurs at the top of the Moscow which may be represented by gray shale or by interbedded shale and limestone as in the Yonkers well. This is at or near the horizon of the Tully pyrite of western New York, renamed the Leicester marcasite by Sutton (1951). The limestone beds which occur at greater depth within the Moscow-Ludlowville formations are relatively free of pyrite or marcasite. These beds occur in the Bates and Morse wells and are called "Tully" limestone by drillers. This seems improper for the limestone lies within shales, possibly near the contact between the Moscow and Ludlowville. Thus the

"Tully" limestone is not Tully in age but may actually be the Tichenor limestone or represent some unit not exposed at the surface.

8. The members of the Onondaga limestone are determined largely on the basis of the color of the limestone and accompanying chert. The Nedrow member contains relatively dark limestone and chert whereas the Moorehouse and Edgecliff members are composed of relatively light-colored limestone and chert. These members may be interbedded locally. The youngest Seneca member of the Onondaga, characterized by a thin layer of bentonite, is not recognized in any of the well cuttings.
9. The basal portion of the Edgecliff member of the Onondaga limestone usually contains an abundance of siltstone with glauconite, called the Springvale sand horizon. This is believed to represent reworked Oriskany sandstone.
10. The true Oriskany sandstone is noted only in the Bates well where it consists of about five feet of coarse grains of transparent to translucent sand containing considerable amounts of glauconite.

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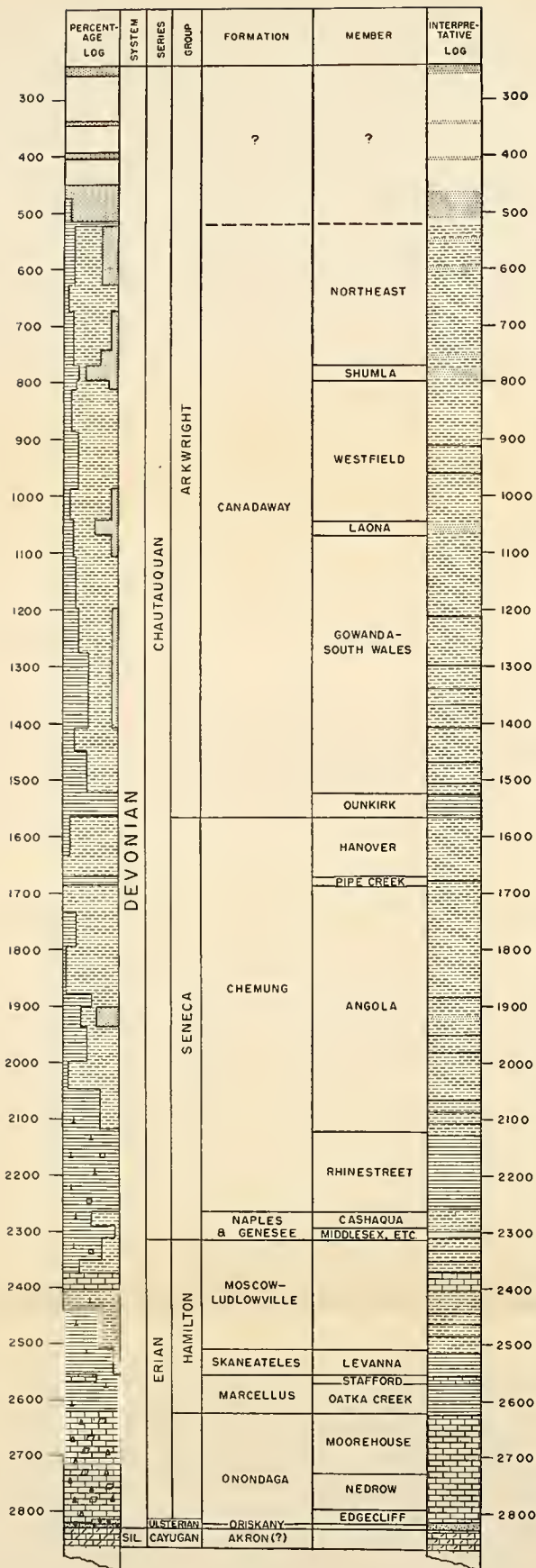
Tesmer, Irving H.

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PERCENT- AGE	STEM	SERIES	GROUP	FORMATION	MEMBER	INTERPRE- TATIVE
	D					













LEGEND



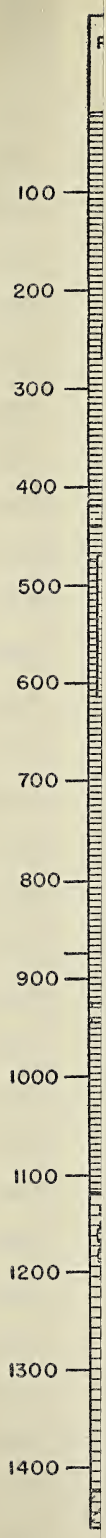


PERCENTAGE LOG
AND
INTERPRETATIVE LOG
OF
ROBERT BATES
NUMBER 1 WELL

LEGEND

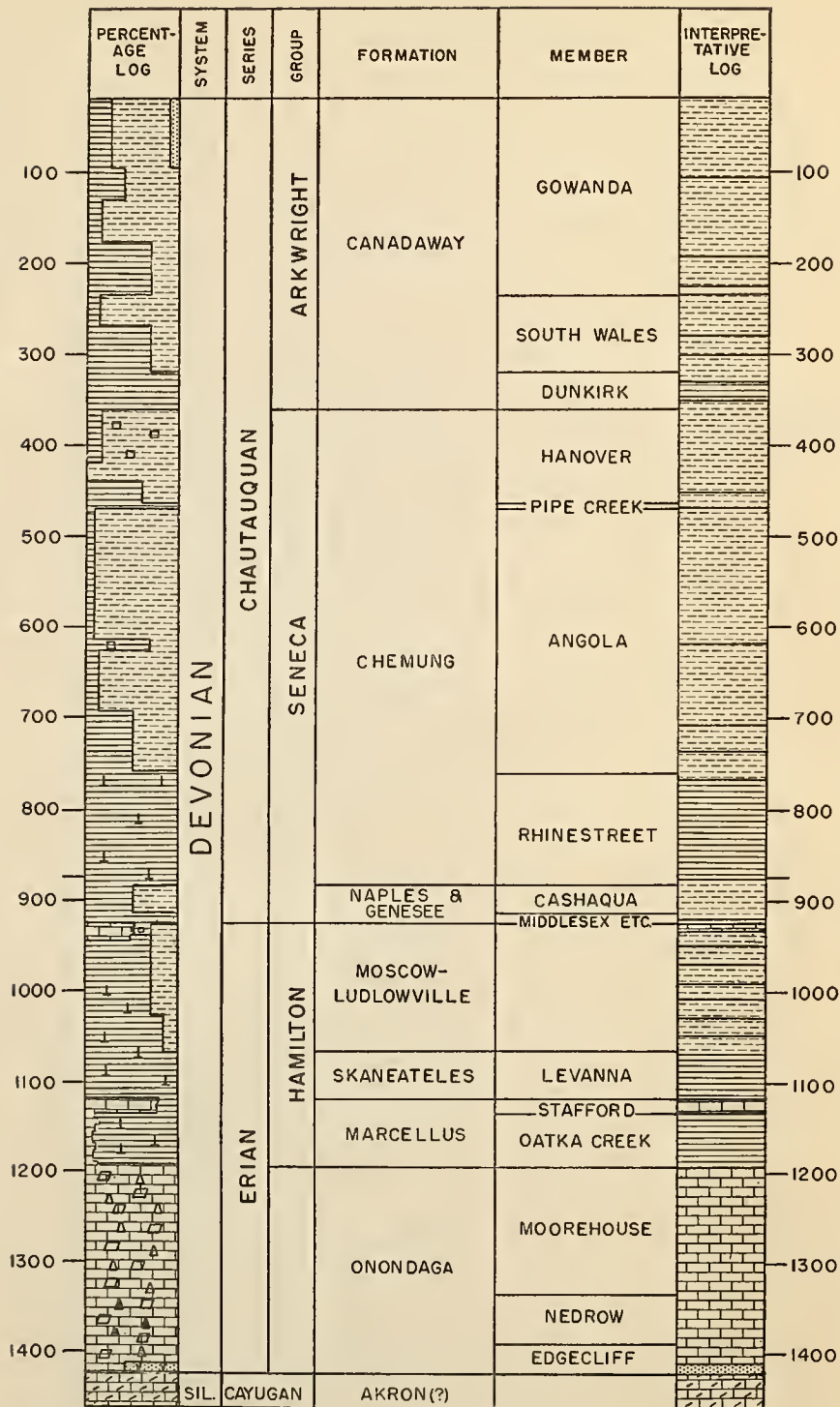
-  Limestone
-  Limestone, Dolomitic
-  Shale, medium dark gray to black
-  Shale, Calcareous
-  Shale, light gray to medium gray
-  Siltstone
-  Sandstone
-  Calcite
-  Glauconite
-  Chert, light gray to medium gray
-  Chert, medium dark gray
-  Pyrite

PERCENT- AGE	STEM	RIES	GROUP	FORMATION	MEMBER	INTERPRE- TATIVE
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







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PERCENTAGE LOG
AND
INTERPRETATIVE LOG
OF
HOWARD YONKERS
NUMBER 1 WELL

LEGEND

-  Limestone
-  Limestone, Dalamitic
-  Shale, medium dark gray to black
-  Shale, Calcareous
-  Shale, light gray to medium gray
-  Siltstone
-  Calcite
-  Glauconite
-  Chert, light gray to medium gray
-  Chert, medium dark gray
-  Pyrite

Elevati

1600

1500

1400

1300

1200

1100

1000

900

800

700

600

500

400

300

200

100

Sea Level

-100

-200

-300

-400

-500

-600

-700

-800

-900

-1000

-1100

-1200

-1300

-1400

-1500

-1600

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